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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,036	03/31/2004	Toshiaki Takahashi	250464US6	3819
22850	7590	12/29/2006	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.			KUMAR, RAKESH	
1940 DUKE STREET			ART UNIT	PAPER NUMBER
ALEXANDRIA, VA 22314			3654	
SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE		DELIVERY MODE	
3 MONTHS	12/29/2006		PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/813,036	TAKAHASHI ET AL.
	Examiner	Art Unit
	Rakesh Kumar	3654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 10/05/2006.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1,3-18 and 20-37 is/are pending in the application.
  - 4a) Of the above claim(s) 2 and 19 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1,3-13,15,16,18,20-30,32,33 and 35-37 is/are rejected.
- 7) Claim(s) 14,17,31 and 34 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 21 March 2004 is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | Paper No(s)/Mail Date: _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>07/13/2006</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application |
|   | 6) <input type="checkbox"/> Other: _____                          |

**FINAL REJECTION**

Claims 2 and 19 are cancelled by the Applicant in amendment filed 10/05/2006.

***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "raising member" and the "raising and lowering member" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1,3,18 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Referring to claims 1 and 18. Claim 1 recites the limitation "raising member" on line 10. It is unclear whether the "raising member" is the same member as in the specification referred to as the "raising guide member." It is construed by the Office to mean the two elements are the same. Furthermore, it is unclear whether the "raising member" is element (120) as disclosed in the drawing Figure 12A or element (24). It is suggested the Applicant identify which of the members disclosed in the applicant's drawings is the "raising member" and identify which is the "raising and lowering member." Appropriate action is required.

Referring to claims 1 and 18. Claim 1 recites the limitation "raising and lowering member" on line 12. It is unclear whether the "raising and lowering

member" is element (120) as disclosed in the drawing Figure 12A or element

(24). Appropriate action is required.

Referring to claims 3 and 20. Claim 3 recites the limitation "end detection member" on line 5. It is unclear whether the "end detection member" is element member (26P) denoted as a "feeler" in the specifications. It is construed by the Office to mean the end detection member is a feeler member. Appropriate action is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-7, 9, 18, 20-24, 26, 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morinaga et al. (U.S. Patent Number 5,443,252) in view of Kitazawa (U.S. Patent Number 5,078,380).

Referring to claims 1, 18, 20, 22 and 35-37. Morinaga discloses a sheet supply apparatus for feeding sheets comprising: a cassette (50) configured to accommodate recording media; and

a recording media feeding member (37) configured to feed out the recording media accommodated in the cassette (50),  
wherein the cassette (50) comprises: a tray main body part (Figure 12 and 13) including a stacking plate (56) configured to have the recording media stacked thereon;  
a raising member (59b) configured to raise the stacking plate (56) toward the recording media feeding member (37); and  
a raising and lowering member (60) connected to the raising member (56b) and configured to raise and lower the stacking plate (56).

Morinaga does not specifically disclose a recording media conveying guide part configured to be detachably connected to the tray main body part.

Kitazawa discloses an apparatus for feeding sheet material (Figure 3F and 7) comprising a recording media conveying guide part (part at the right side of Figure 7 comprising member 219b, 211b ... wherein the tray 19b engages the back wall when installed in unit) detachably connected to the tray main body part (19b).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching Morinaga and include a recording media conveying guide part configured to house the raising and lowering members of the apparatus as taught by Kitazawa because the sheet feeding tray would be easier to assemble if the working components are divided into separate modules.

Referring to claims 3,5,20 and 22. Morinaga discloses a sheet supply apparatus for feeding sheets wherein the stacking plate (56) is configured to swing up and down according to a quantity of the recording media stacked on the stacking plate (56; see Figure 18A and 18B),

wherein the sheet feeding device further comprises: a recording media end detection member (see Figure 23) disposed at a position adjacent to a swinging side end of the stacking plate (56) and configured to contact the recording media stacked on the stacking plate (56; Figure 18A) and configured to be moved in a direction of a thickness of the recording media stacked on the stacking plate; and

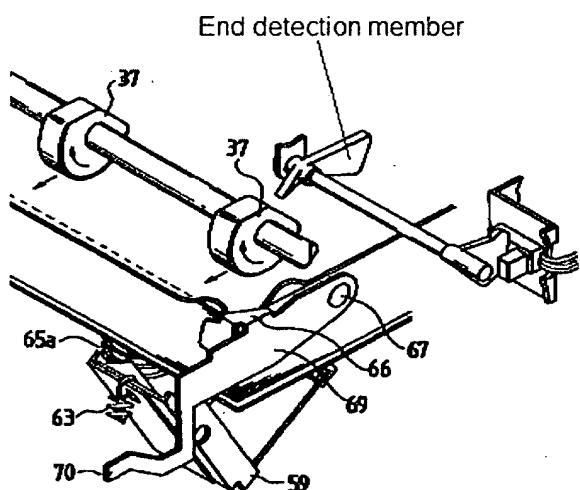
at least one pass-through part formed (see Figure 7) at the swinging side end of the stacking plate (56) and configured to oppose the recording media end detection member via the recording media stacked on the stacking plate, and

wherein the recording media and detection member (Figure 23) is configured such that an end condition of the recording media in which all the recording media stacked on the stacking plate are fed out from the cassette is detected when the recording media end detection member falls into the at least one pass-through part.

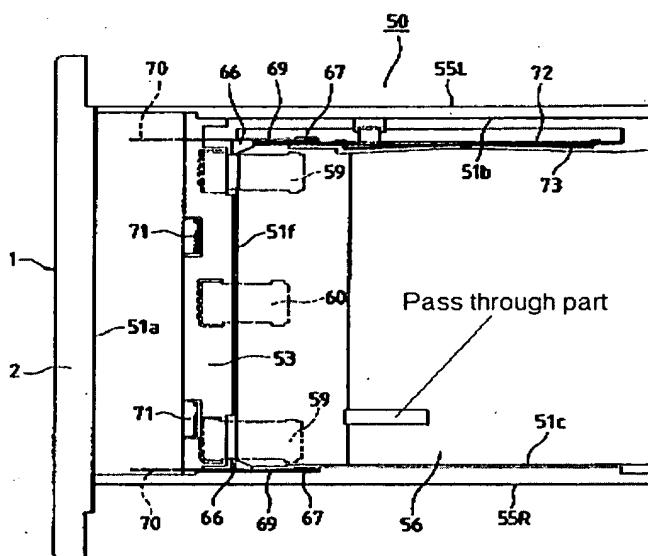
Referring to claims 6,7,9,23,24 and 26. See above. Morinaga discloses the end detection member (see below Figure 23) contacts the topmost media sheet in the stack, the member connected by a shaft which rotates to designate a

depleting stack of media wherein an opposite end of a shaft connected to an indicator with marking to be relayed stack height to a processor.

*FIG. 23*



*FIG. 7*



Referring to claims 4 and 21. Morinaga discloses a sheet supply apparatus for feeding sheets wherein the recording media feeding member (37) is configured to be disposed at a position corresponding to a center position of the recording media in a widthwise direction (see center member 37; Figure 3) of the recording media corresponding to a direction orthogonal to a feeding direction of the recording media stacked on the stacking plate (56) wherein the at least one pass-through part comprises two pass-through parts (41), and the two pass-through parts (41) are configured to be formed at positions of the swinging side end of the stacking plate (56) corresponding to both side positions relative to the recording media feeding member (37) in the widthwise direction of the recording media stacked on the stacking plate (56).

Claims 8 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morinaga et al. in view of Kitazawa as applied to claim 1 above, and further in view of Tada et al. (U.S. Patent Number 6,361,038).

Referring to claims 8 and 25. Tada discloses a sheet feeding apparatus comprising a flexible bottom plate lifting mechanism (7; Figure 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching Morinaga in view of Kitazawa and include a positioning part operable by the elasticity of the guiding part as taught by Tada because such a selection would be well within the skill of the artisan.

Claims 10-13,15,16,27-30,32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morinaga et al. in view of Kitazawa as applied to claim 1 above, in view of Jessop (U.S. Patent Number 6,267,371) and further in view of Sagara et al. (U.S. Patent Number 5,537,195).

Referring to claims 10,15,16,27,32 and 33. See above. Jessop discloses sheet supply cassette (Figure 4) comprising;

a rear end regulation member (290) configured to regulate rear ends of the recording media in a direction in which the recording media are fed and adjustable in the direction of the media are fed;

Jessop does not disclose a tray expansion/contraction part supported by the trays main body part.

Sagara discloses a sheet supply cassette wherein the expansion/contraction part (2) of the tray is supported by the tray main body part (1) and configured to slide to a cassette expanded position where the cassette is in an expanded state and to a cassette contracted position where the cassette is in a contracted state (depending on the position of where member 2 is positioned in the locking grooves) and including a part forming a moving path of the rear end regulation member (2c) so that the rear end regulation member (2c) is moved to regulate rear ends of the recording media; and comprises a reinforcing member (82b; Figure 7) extended across the part of the tray expansion/contraction part forming a moving path.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching Morinaga in view of Kitazawa to include a rear end regulation member adjustable within a track disposed on the base of the main body part of the tray as taught by Jessop because it would provide a greater flexibility to use different size media within the media sheet cassette.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching Morinaga in view of Kitazawa in view of Jessop to include an expansion/contraction part comprised of the rear portion of the tray main body such that the complete rear portion of the tray could be adjusted to accommodate the size of the media to be used as taught by the Sagara because using an expansion/contraction part of the tray that merges within the main body of the tray would result in a tray footprint that better resembles the type of media being used.

Referring to claims 11,12,13,28,29 and 30. Jessop discloses sheet supply cassette (Figure 4) wherein the moving path of the rear end regulation member (290) comprises a rail (280) configured such that the rear end regulation member (290) is placed to slide thereon, and wherein the auxiliary member comprises an auxiliary rail (335) configured such that the rail is continued when the auxiliary rail (335) is attached to the part of the tray rear end regulation member (290) forming the moving path of the rear end regulation member.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching Morinaga in view of Kitazawa in view of Jessop and included a tray expansion/contraction part as taught by Sagara to have been disposed on the a rail such the adjustment to the size of the tray could be made more easily.

### ***Allowable Subject Matter***

Referring to claims 14,17,31 and 34. Claims 14,17,31 and 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Response to Arguments***

Applicant's arguments filed 10/05/2006 have been fully considered but they are not persuasive.

Claim rejection under 35 USC § 112 are maintained because it unclear as to which members are being referred to in the Applicants drawings. See rejection above for further detail.

The Applicant argues "there is no teaching or suggestion for having the raising and lowering member configured to raise the stacking plate to a predetermined position when the cassette is installed... ." In the view of the Office the teachings of Morinaga fully disclose a "raising and lowering member"

(60) configured to raise the stacking plate (56) to a predetermined position when the cassette is installed in the apparatus. The raising action of the member (60) can be viewed in Morinaga Figures 28A-29B wherein the raising and lowering member acts on the stacking place to pivot the upper end of the plate to different heights. As the media sheets stack height decreases the stack plate is further moved upwardly to a predetermined position by the movement of the raising and lowering member such that the topmost sheet of the stack achieves contact with the feeding members (37). Because, the upward movement of the stack plate by the raising and lowering member is dependent upon the position of the topmost media sheet in the stack relative to the contact surface of the feeding member and further because this relationship is maintained as the sheets are consumed (the height of the stack of media sheet decreases above the stack place) it is thus considered by the Office that the movement of the stack plate is predetermined.

### ***Conclusion***

Any references not explicitly discussed above but made of record are considered relevant to the prosecution of the instant application.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is

filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

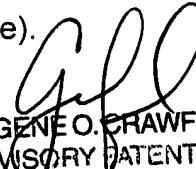
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rakesh Kumar whose telephone number is (517) 272-8314. The examiner can normally be reached on 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathy Matecki can be reached on (571) 272-6951. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see

<http://pair-direct.uspto.gov>.

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GENE O. CRAWFORD  
SUPERVISORY PATENT EXAMINER

RK

December 21, 2006